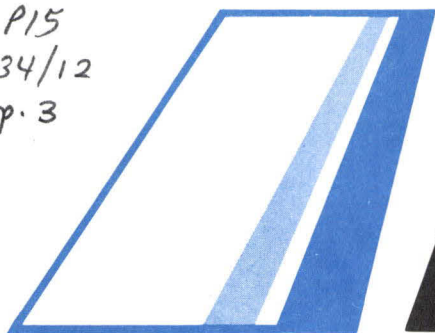


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Palmetto AVIATION

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STATE DOCUMENTS

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Dirt is being moved south of Owens Field in the first phase of construction for a new 4,600 foot runway. Phase one work includes site preparation and drainage work; relocation of a railroad track which crosses the planned runway (see photo); and asphalt paving of the runway, taxiway and access road. Jackson Construction Co. of West Columbia was low bidder on the \$2.4 million project. The S.C. Aeronautics Commission is funding 50 percent of the project. (Aeronautics Commission photo).

Union Airport has New FBO

S. & S. Aircraft Maintenance & Service, owned by Ray Stillwell and Eddie Shields, began operation as Union County Airport's fixed base operators on October 1, 1982.

Both Stillwell and Shields are aircraft mechanics and will offer major engine repairs, airframe repairs, 100-hour and annual inspections, and provide all aviation needs at Shelton Field in Union.

Ray Stillwell is from Chester, and has operated a repair shop there in recent years. Shields comes to Union from Springfield, Ohio where he was a shop service manager. He attended Piedmont Airlines mechanic school in Winston-Salem, N.C. Both men have worked at Cannon Aircraft at Charlotte, N.C. as aircraft mechanics.

The airport is now attended between the hours of daylight to dark. ➔

Hot Air Balloon Club is formed

The South Carolina Sport Balloon Association is a newly formed club for those persons interested in ballooning.

The club organized in October, adopted by laws and elected six officers to serve until Dec. 31, 1983.

Elected were: Ashley Calhoun, president; Walter Carson, vice president; Larry Smith, secretary; Rhonda Klink, treasurer; Mike Corley, safety officer and Terry Carson, newsletter editor.

If you are interested in joining the club, contact Ashley Calhoun at 782-6082. ➔



PALMETTO AVIATION is an official publication of the South Carolina Aeronautics Commission. It is designed to inform members of the aviation community, and others interested in aviation, of local developments in aviation and aviation facilities and to keep readers abreast of national and international trends in aviation.

The Aeronautics Commission is a state agency created in 1935 by the S.C. General Assembly to foster and promote air commerce within the state.

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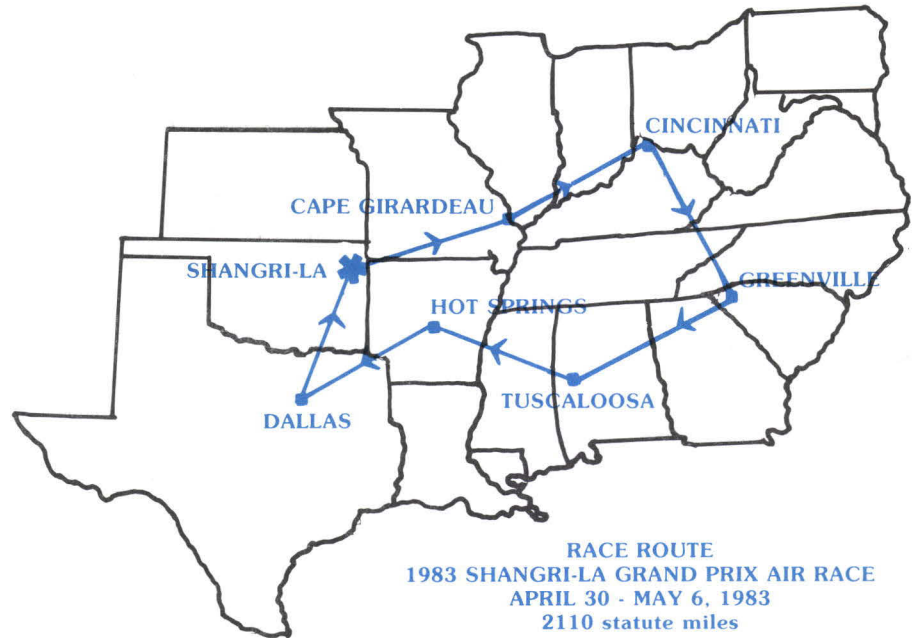
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Cross country air race open to men and women

The Third Annual Shangri-la Grand Prix Air Race will be flown April 30 - May 6, 1983 from Shangri-la, Oklahoma and travel 2110 statute miles through fourteen states before returning to the start.

The Grand Prix is a handicap speed race with stock and modified aircraft competing for \$15,000 to \$20,000 prize money and is the only major cross-country race open to both men and women pilots. Entries open February 18, 1983 and close March 28, 1983. More than fifty aircraft are expected to compete.

Grand Prix air racing is an opportunity for men and women to compete and test their pilot skills in a major cross-country air race. It's also an opportunity to have a great deal of fun doing what they love best - flying!

Any pilot holding a private grade or higher airman's certificate, a current medical and proof of biennial flight review or equivalent flight check is eligible to enter. Non U.S. pilots who hold a valid pilot's certificate in their own country are also eligible. Pilots may race solo or with a co-pilot. Co-pilots need not be licensed.

The object of the race is to plan and execute the perfect cross-country flight, to get the best possible performance out of pilot and aircraft and to

navigate with skill and precision . . . And, to do it in less time than the other contestants:

The Grand Prix is a speed race with each aircraft assigned a handicap based on manufacturer's data and/or flight testing, as well as other known performance data. There is no limit on aircraft age or horsepower and modified/conversion aircraft are allowed. No special annual is required. The race is flown under daylight VFR conditions only, but pilots may choose times to fly and altitudes to take best advantage of existing wind and weather conditions. At the designated stops (airports) along the route, each entry makes a high speed pass over a timing line and may then either land or continue on to the next stop. This ensures that no corners are cut and, at the same time, provides some of the most exciting moments in racing!

For the third year in a row, America's finest fly-in resort, Shangri-la in Afton, OK, will host the start and finish of the round-robin race.

Entry kits are available and interested pilots should send \$7.00 to:

Grand Prix Air Race, Ltd.
1918 W. Banbury Road
Palatine, Illinois 60067
Tel. (312) 358-5100

Breakfast Club



The South Carolina Breakfast Club will hold its next meeting at Don's Pancake House (Myrtle Beach) on Dec. 12. Fly into the Phillips 66 ramp at North Myrtle Beach Airport.

Other meetings scheduled are:

- Jan 2** Owens Field
- Jan 16** Open
- Jan 30** Daniel Field, Augusta, Ga. (breakfast at T's Drive In.)
- Feb 13** Clarendon County Airport

Persons attending breakfast club meetings should plan to arrive at the airport around 9 or 9:30 a.m. Breakfast usually begins around 10 a.m.

On Oct. 31, the club held its annual meeting in Orangeburg. All officers, with the exception of club secretary-treasurer Anne Hawkins will serve another term. The new club secretary-treasurer is Marie Ballard, wife of Gerald Ballard.

Officers re-elected were: Gerald Ballard, president; David Oswalt, mid-state vice president; Fred Powell, upper state vice president; Rudy Branham, lower state vice president and Coy Derrick, historian.

If anyone would like to host the breakfast club meeting on Jan. 16, please call Marie Ballard at (404) 724-2651 during the day or, (404) 592-4963 after 6 p.m.



New Laurens Terminal

Construction is proceeding on a new terminal/administration building at Laurens County Airport. The 1,800 square foot metal building will contain a reception area, conference room, office space, rest rooms and a storage area. The \$63,000 building will be funded with 50 percent county and 50 percent state funds.

Hawthorne to instruct Annapolis cadets

Hawthorne Aviation, a Charleston based company, has been awarded the contract for flight instruction and indoctrination at the U.S. Naval Academy in Annapolis, Maryland.

Hawthorne will furnish flight training and support under the Naval Academy's Midshipmen Program. Services include personnel, aircraft and maintenance. Hawthorne flight instructors and mechanics will fly and maintain nine Piper Warriors over 6,000 flight hours per year. The pro-

gram's goal is to expose midshipmen to aviation and allow them the opportunity to pursue a career in naval aviation.

John H. Allen, President of Hawthorne, said "We are very excited about this opportunity to serve the U.S. Navy. In over 50 years that our company has been in business, we have trained more than 31,000 student pilots; over 15,000 of whom were for the Armed Services." ➔

"Buy Chevy/Fly Eastern" offer highly successful

The "Buy Chevy/Fly Eastern" offer when ended Nov. 15 may be one of the most successful marketing programs any airline has been involved in.

According to estimates, Eastern will take in a minimum of \$70 million from the program.

The program, which began Oct. 1, allowed buyers of 1982-83 Chevrolet Chevettes and Citations and selected Chevy and GMC pickup trucks to receive a roundtrip coach ticket for two on flights anywhere Eastern flies except South America and Panama. Buyers have until Nov. 15, 1983 to choose a destination and to use the tickets.

More than 100,000 applications for Eastern tickets have been processed and officials are expecting another 100,000. Officials for neither Chevrolet or Eastern would reveal how much the automaker paid for the airline tickets, but an informed source said that Chevy and its dealers paid Eastern \$350 for every pair of roundtrip tickets.

"The program will contribute greatly to our revenues in 1983," Russell L. Ray, senior vice president for marketing said. The airline showed a net loss of \$87.1 million for the first nine months in 1982.

"As far as we're concerned it was the greatest effort we've ever put into a partnership," Ray said. ➔



**A-7D Corsair II
attack fighter
operated by 157th TFS,
McEntire ANG**

A-7 is highly sophisticated weapons system

**By Capt. Richard M. Naumann
157 TFS, McEntire**

The South Carolina Air National Guard (SCANG) conducts fighter aircraft operations with the 157th Tactical Fighter Squadron (TFS) "Swamp Foxes" and the Vought Corporation built A-7D Corsair II. The A-7D is a single seat, single turbofan engine attack fighter. Even though the aircraft has been in the Air Force inventory since 1969, it has a highly sophisticated, highly accurate and extremely dependable navigation and weapons release system. As evidence of this, in the fall of 1981 an Air Force wide gunnery and navigation competition called "Gunsmoke 1981," which included all types of Air Force fighter attack aircraft, was won by an A-7D unit from the Colorado Air National Guard.

The A-7D avionics package includes such systems as; inertial navigation; air data computer; navigation and weapons delivery computer; armament station control unit; drop-pler radar; radar altimeter; automatic flight control system to include autopilot functions; projected inertially driven moving map display; heads-up-display (HUD) to include attitude, altitude, heading, airspeed, navigational and weapons delivery information; forward looking radar; ILS and TACAN.

The arament system includes an internal 20MM Gatling gun, six wing-

mounted store pylons and two fuselage-mounted missile rails.

The A-7D radius of operations is about 500 miles. Swamp Fox flying activities encompass the entire state of South Carolina and the southeastern United States.

Mission Profile

A typical mission profile is HI-LO-HI. After take off, departures are made IFR at altitudes from 6000 ft. to FL 250. Low level training routes, MOA operations and gunnery range activities are the meat of the mission and are conducted VFR. These operations are conducted in weather conditions as low as 2000 ft. and 5 miles visibility. As high speed, maneuvering traffic we are squawking Mode 3,400 even though we are not in radio contact with IFR controlling agencies. Return to home plate is normally conducted IFR.

The low level routes have been constructed to avoid highly populated areas and have a minimal impact on the vast majority of the population. The routes tend to follow rivers and swamps. On a low level we fly in elements of two at airspeeds from 360 knots to 520 knots with 420 knots the standard. Aircraft altitude may vary from 1500 ft. to 100 ft. AGL with 300 to 500 ft. AGL the norm. These tactics are designed to penetrate

enemy defenses and attack a rear echelon target with an element of surprise.

"Pop-Up"

Near the end of the low level we make an attack and simulated weapons release using the "pop-up" maneuver. A "pop-up" begins about three miles from the target at high speed and very low altitude (about 480 knots, 100 ft. AGL). The pilot initiates a pull-up and climb at about 20 degrees nose high. A pull down maneuver follows and the aircraft will generally apex at 2500 to 4000 ft. MSL. A dive bomb pass is then made against the target with weapons release at 500 ft. to 2000 ft. MSL. Dive recovery is followed by evasive jinking to defeat enemy surface to air defense systems. The ordnance that we simulate releasing on the target varies from the MARK 82 500 lb. bomb, MARK 84 2000 lb. bomb, cluster bomb units (CBU) that are anti-armor and anti-personnel, and 20MM gatling gun strafe. All of these weapons are conventional and not nuclear.

The 157th TFS primarily utilizes the Game Cock A, C, D, E, and I MOA's. Once again, these operations are VFR with high speed, heavy

continued next column

maneuvering flight in a combat scenario.

Ordnance used

Actual weapons release sorties are flown on about 50 percent of our missions. At Poinsett gunnery range (R-6002) we are limited to release of the 25 lb. BDU-33 practice bomb and 20 MM strafe. Heavyweight ordnance, both live and inert, is delivered at ranges and Army posts outside of South Carolina.

How would a civilian pilot avoid a close encounter with an A-7? Fly IFR when practical. If VFR, fly above 4000 ft. MSL and avoid MOA's. Even if VFR, talk with the appropriate approach control or center for traffic advisories. And if you just have to fly but you don't want to talk with anybody at least turn your transponder on with the altitude squawk. Then others can be advised of your position.

Capt. Naumann is a part-time fighter pilot with the SCANG and has a civilian occupation of charter pilot with RAMP 66 at the Grand Strand Airport. He is a 1974 graduate of USC and was on active duty with the Air Force until May 1981. He has 2000 hours fighter time and 1000 hours civilian. ➔

Nominations open for helicopter heroism award

The AVCO corporation and the Aviation/Space Writers Association (AWA) are conducting the 17th annual AVCO/AWA Helicopter Heroism Award Program.

The award will be presented to a pilot, crew member or other individual for an outstanding act of heroism involving the use of a helicopter.

The international competition is open to civilian or military personnel. There is no restrictions as to age, sex, nationality or occupation or the type helicopter involved. Joint and posthumous awards may be made.

Anyone may submit nominations to a five-member judging committee appointed by AWA. Nominations should be accompanied by authenticating material such as letters, films, press accounts, citations, and other records documenting the event.

Air National Guard readiness praised by military

The Air National Guard may be the most combat-ready air force in the world, military experts say.

"The best air force in the world may not be the Russians, or the Israelis or the US Air Force," Sen. William Proxmire, a frequent critic of the military said. "It probably is the Air National Guard."

"These units are better trained, more experienced and better prepared than the regular Air Force," Proxmire said.

Major Gen. Francis S. Greenlief, executive vice president of the National Guard Association of the United States, told the House Armed Services Committee that, "98% of all Air National Guard units are rated as combat ready."

The Pentagon admitted that the regular Air Force could not match this figure but a spokesman declined to give the exact percentage of regular Air Force units that are combat ready because it is classified information.

"I would have to agree that their readiness is higher," said Maj. Robert

Nicholson, Air Force spokesman at the Pentagon.

"Every time I've been to an Air Guard unit I have been impressed. It just amazes me how well they maintain their aircraft, how well they fly and the esprit de corps of the units. We have tactical air warfare games six or seven times a year, the Air Guard units participated with the active duty ounce-for-ounce. They really do a job."

"A good numbr of the Guard pilots flew for us in Vietnam," Nicholson said. "So they've got guys with both combat time and with a higher number of flying hours."

Brig. Gen. Bruce Jacobs, deputy executive vice president of the National Guard Association, said, "The Air Guard guys are just outstanding in the war game exercises. They are Air Force trained and they get just as many hours of military flying per month as the active duty pilots."

"You have extraordinary stability in the Air National Guard. When you put two units side-by-side, and you have one that sort of stays in place and the other where the personnel continually changes, the stable one comes out better."

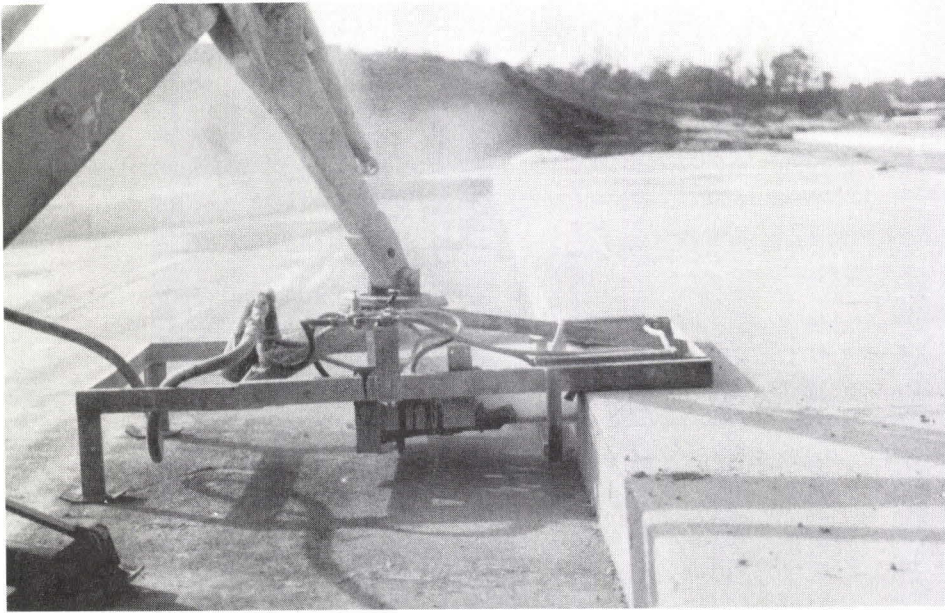
"Another factor is that a lot of the Guard maintenance men have been working on these airplanes for 10 years and they know them inside and out, where as in the active duty Air Force, we're constantly training new people," Nicholson said, "At any one time, one-fourth of our people would be at the entry level." ➔

Ballantyne to head ultralight program

John Ballantyne has been appointed to head the ultralight safety program of the AOPA Air Safety Foundation, replacing John Sheehan who is now planning officer of the technical policy and plans division of Aircraft Owners and Pilots Association. ➔

Lawyer-pilots to meet

The Lawyer-pilots Bar Association semi-annual meeting is scheduled for Feb. 16-20 at Hotel Coronado, San Diego, Calif.



Charleston apron paving

Pneumatic drills punch holes in 15-inch thick concrete slabs being laid at Charleston International Airport so metal connecting dowels can be inserted, locking the slabs together. The slabs will form the terminal apron for the new terminal building in the multi-million construction project. The pavement contracts for taxiway and apron paving were awarded to Southern Roadbuilders of Augusta, Ga. for \$3.4 million. (Aeronautics Commission Photo).

Auto gas approved only for certain Cessna models

Pilots flying Cessna 150's should have an easier time finding fuel this winter — and pay less for it as well.

Thanks to a change in FAA regulations, they can now use auto gas in their aircraft. But don't take that as blanket approval for auto-gas usage in other models.

The approval covers only Cessna Models 150, A through H and J through M, powered by Teledyne Continental O200-A engines. It applies to all kinds of operations now, but the FAA plans to exclude air taxi flights carrying passengers for hire.

The action follows extensive testing of unleaded auto fuel in the single-engine Cessna 150. During the testing, the FAA certification team paid particular attention to endurance tests on the engine to determine whether the use of unleaded auto fuel would cause such problems as valve sticking, vapor lock, scorched cylinders, and excessive engine wear. The 150s came through fine but more

complex engines might well run into those problems. ➔

Walter H. Flint addresses annual CAP wing conference

Walter H. Flint, former curator of astronautics at the National Air and Space Museum, reviewed 25 years of manned space flight at the annual conference last month of the South Carolina Wing, Civil Air Patrol in Columbia.

Flint, who was appointed director of aerospace education for the mid east region, traced the history of manned space flight from Alan Shepard's 15 minute suborbital hop to today's reusable space shuttle.

The retired Air Force missileman, recounted how John Glen's three-orbit mission began an era of more complicated series of Mercury and Gemini flights, culminating in the Ap-

John's Island Airport granted reliever status

Charleston Executive Airport at John's Island has been designated a reliever airport by the Federal Aviation Administration, the first such designation in South Carolina.

As a designated reliever, the airport will be eligible for funds in the Airport Improvements Program act set aside specifically for relievers.

"I think it enhances our chances of getting federal funds," Airport Director George Rubino said.

"The FAA criteria was 50,000 operations a year. We were at 45,000, just a little below what they required," Rubino said.

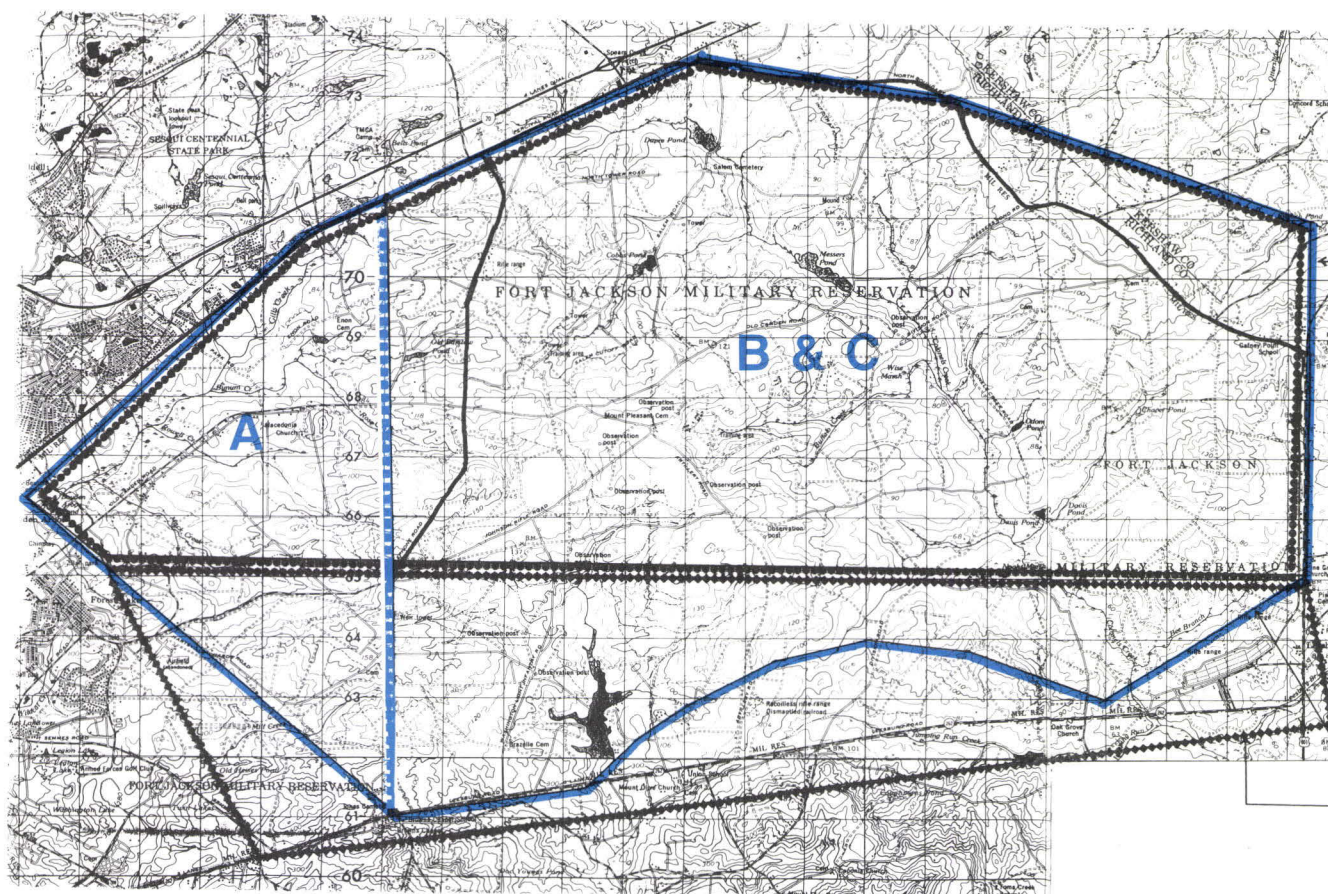
Rubino said he wrote letters asking for reliever status based on the concept that Charleston Executive and the planned East Cooper Airport will function as a system to funnel traffic away from Charleston International and its heavy military jet mix.

Construction has begun on a partial parallel taxiway and installation of taxiway lights at John's Island. Also the Runway lights will be upgraded from low intensity to medium intensity lights. The paving contractor is Banks Construction Co. and the electrical contractor is Rockwell Radio and Electric Co. ➔

plo program and the first human exploration of the moon. Within four years, the U.S. launched the 200,000 lb. Skylab, manned space lab and now operates regular commercial space shuttle flights.

Flint, a graduate of the U.S. Naval Academy, joined the Air Force and flew P-51 Mustangs in Korea. Later, he spent five years at Cape Canaveral involved in global range operations. A tour in missile operations at the Air Force Systems Command preceded assignment to the Apollo lunar landing program with NASA.

The Wing conference was held at the Quality Inn November 13, in Columbia. ➔



A-SFC-2490

B-SFC-3200

C-SFC-23,000

Ft. Jackson restricted area may be changed

The U.S. Army is asking the Federal Aviation Administration (FAA) to expand the Ft. Jackson restricted area (R-6001) southward but will allow aircraft to overfly the area as long as they remain above the minimum altitude restrictions.

Maj. W. M. Nesbitt, facility commander of the Ft. Jackson Army Aviation Division, said civilian aircraft will normally be able to overfly the area at or above 3,200 feet Monday through Friday, nine months a year, under the Army's proposal.

But on weekends, and during the summer when National Guard and Army reserve units are firing high altitude artillery ordnance aircraft will be routed around the restricted area unless they are at 23,000 feet or above.

Most pilots assume the current restricted area covers the entire Ft. Jackson military reservations, but it does not. As can be seen from the

map, a large part of the land to the south is not under restricted airspace. However, it is now managed by the Army under the Controlled Fire Area (CFA) concept. If an aircraft overflies the area when firing is taking place, the shooting stops. Also, in the CFA, no firing is allowed except in VFR conditions.

Under the Army's proposal, the CFA would be eliminated and the restricted area would be as shown on the map.

The circular cut out in the bottom will allow McEntire Air National Guard IFR traffic to maneuver on approaches and departures to the base.

The Army plans to divide the area into three sectors. Sector "A" — the sector where small arms training is conducted — will have a minimum altitude at all times of 2,490 feet MSL.

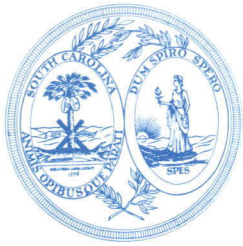
Sector "B" — the remaining area — will have a minimum altitude of

3,200 feet MLS unless sector "C", which covers the same area, is hot. When sector "C" is active, the altitude restriction may be up to 23,000 feet. This will normally occur on weekends and during summer camps when the area is being used for high altitude artillery practice.

Aircraft receiving stage III radar advisories from Columbia or Shaw AFB controllers will be worked around or over the area, depending on what kind of training is being conducted.

Aircraft not in communication with Columbia or Shaw should contact Florence FSS and request specific NOTAMS regarding the Ft. Jackson restricted area before crossing it.

According to Maj. Nesbitt, the proposal will in no way change the way any of the current training activities are being carried out. Small arms and artillery training will continue as they have been for the past several years, in the same locations. ➔



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